

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-057
NPDES NO. CA0029700

WASTE DISCHARGE REQUIREMENTS FOR:

MCKESSON CORPORATION, UNION CITY
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. McKesson Corporation, (hereinafter called the discharger), by application (dated November 17, 1989, and by addendum dated February 22, 1990) has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger operated a chemical packaging and distribution facility at 33950 Seventh Street, in Union City, Alameda County from 1971 until 1986. The facility handled and repackaged inorganic and organic chemicals, including caustics, chlorine, and organic solvents. Chemicals were stored in both aboveground tanks and underground tanks at various times during the operation of the facility. Chemicals were detected in the soil and groundwater beneath the facility in the early 1980's. Chemical compounds which were used, stored, and/or found in the groundwater include: trichloroethene (TCE), tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), and 1,1-dichloroethene (1,1 DCE), dibromochloromethane, trichlorofluoromethane, 1,1,2-trichloro 1,2,2-trifluoroethane (Freon 113), 1,2-dichloroethane, 1,1-dichloroethane, chloroform, trans-1,2-dichloroethene, trans-/cis-1,2-dichloroethene, 1,1,2,2-tetrachloroethane, methylene chloride, bromoform, carbon tetrachloride, bromodichloromethane, 1,2-dichlorobenzene, 1,1,2-trichloroethane, toluene, xylenes, methyl ethyl ketone, acetone, isopropyl alcohol, and gasoline and diesel. However, the chemicals in the groundwater at the highest concentrations and which are the most widespread are TCE, PCE, 1,1,1-TCA, and 1,1-DCE. The chemicals found in the groundwater are believed to be the result of poor housekeeping practices.
3. The discharger has been investigating the nature and extent of soil and groundwater pollutants. Since 1986, the investigation and remedial activities have been governed by Site Cleanup Order (SCO) No. 86-3 (adopted February

19,1986), and its successor SCO No. 88-104 (adopted June 15, 1988). The investigations to date have revealed that some of the onsite pollutants have migrated offsite.

4. The discharger seeks to minimize the further migration of pollutants in the affected groundwater by installing a groundwater extraction and treatment system. This system will consist of 24 extraction wells with subsequent treatment of the extracted groundwater by granular activated carbon adsorption and air stripping (Remedial Investigation and Feasibility Study, July 14, 1989 by Harding Lawson Associates). Average flows discharged from the groundwater extraction system are expected to be 95 gallon per minute (gpm). The planned discharge of this treated groundwater is to the storm drain near 7th Street which is tributary to the Alameda County Flood Control District Channel, Alameda Creek, and South San Francisco Bay. The planned discharge point is upgradient of the Alameda County Water District's groundwater recharge facilities for domestic water supply.
5. Concentration of dissolved metals in the groundwater have not been studied extensively. McKesson believes that metals in the groundwater did not originate from their facility. McKesson also believes that the concentration of dissolved metals may represent background levels. In samples analyzed so far zinc and nickel were found at levels above Basin Plan shallow zone discharge limits. McKesson believes that only during a large precipitation event will the discharge reach the San Francisco Bay. However, if the discharge did reach the San Francisco Bay the concentrations would be greatly diluted. McKesson has agreed to study background dissolved metal concentrations, as well as dissolved metal concentrations in the treatment system influent, effluent, and in the receiving waters.
6. The discharger has considered the feasibility of reclamation, reuse or discharge to a publicly owned treatment works, as specified in Board Resolution No. 88-160.

The discharger has identified and contacted twelve potential users for the treated groundwater. To date only one potential user (Glad-A-Way Gardens) has shown as interest in using the treated groundwater. Glad-A-Way Gardens grows gladiolus on property adjacent to the site. Although Glad-A-Way Gardens may be able to use some of the treated groundwater, they may not be able to use all of the treated groundwater all of the time. McKesson is willing to working with Glad-A-Way Gardens to implement this use for the treated groundwater. Use of reclaimed water shall be in compliance with all local permit requirements including that of the Alameda County Water District.

The discharger has contacted the Union Sanitary District (USD) for possible discharge of the treated groundwater to the sanitary sewer. By letter dated January 29, 1990 the USD refused to accept the treated groundwater as the sewer mains at this location are at full capacity.

6. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Alameda Creek and South San Francisco Bay and contains discharge prohibitions applicable to shallow water discharges in these areas.
7. The existing and potential beneficial uses Alameda Creek and South San Francisco Bay include:
 - a) Contact and non-contact water recreation
 - b) Wildlife habitat
 - c) Preservation of rare and endangered species
 - d) Estuarine habitat
 - e) Fish spawning and migration
 - f) Industrial service supply
 - g) Shellfish harvesting
 - h) Navigation
 - i) Ocean commercial and sport fishing
 - j) Groundwater recharge
- 8) The existing and potential beneficial uses of the groundwater in the area include:
 - a) Municipal and domestic supply
 - b) Industrial process supply
 - c) Industrial service supply
 - d) Agricultural supply
- 9) Effluent limitations of this Order (as shown in section A below) are based on the Clean Water Act, the Basin Plan, State and U.S. Environmental Protection Agency (EPA) plans and policies, best available treatment economically available (BATEA), and best engineering judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Guidance Document" was also considered in the determination of effluent limits.
10. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any non-tidal

water, dead-end slough, similar confined water, or any immediate tributary thereof."

11. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 10 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
12. Exceptions to the prohibitions referred to in Finding 10 are warranted because the discharge is an integral part of a program to cleanup contaminated ground water and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon section B.1.e.
13. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The discharger's ground water extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.
14. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
15. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
16. The Board, in a public meeting on May 16, 1990, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. The discharge shall be limited to treated groundwater and added chemicals which do not adversely affect the environment and comply with requirements of this Order.
3. Bypass of untreated or partially treated groundwater at/to the discharge point is prohibited.
4. The maximum monthly average flow shall not exceed 160,000 gallon per day (gpd). If additional units, similar to the original treatment units, are provided then additional flow may be permitted in proportion to the capacity of the additional units to a maximum of 288,000 gpd. Before discharge of this additional flow commences, written approval must be obtained from the Boards Executive Officer.

B. EFFLUENT LIMITATIONS

1. The effluent at the point(s) of discharge to (surface waters) shall not contain constituents in excess of the following:

TABLE 1

Constituent	Instantaneous Maximum Limit * ($\mu\text{g/l}$)
<u>VOC's</u>	
Trichloroethene	0.5
Tetrachloroethene	0.5
1,1,1-Trichloroethane	0.5
1,1-Dichloroethene	0.5
Dibromochloromethane	0.6
Trichlorofluoromethane	0.5
1,1,2-Trichloro 1,2,2-Trifluoroethane	0.6
1,2-Dichloroethane	0.5

1,1-Dichloroethane	0.5
Chloroform	0.5
Trans-1,2-Dichloroethene	0.5
Trans-/Cis-1,2-Dichloroethene	0.5
1,1,2,2-Tetrachloroethane	0.5
Methylene Chloride	2.0
Bromoform	0.7
Carbon Tetrachloride	0.6
Bromodichloromethane	0.7
1,2-Dichlorobenzene	4.0
1,1,2-Trichloroethane	0.6
 Benzene	 0.5
Ethylbenzene	0.5
Toluene	0.5
Xylenes	0.5
 Total VOCs (sum of all EPA 601 & 602 Compounds)	 50.0

OTHER COMPOUNDS

Methyl Ethyl Ketone	20.0
Acetone	20.0
Isopropyl Alcohol	30.0

TPH

Total petroleum hydrocarbons as gasoline and diesel	50.0
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* These Effluent Limitations are based on detection limits (for reporting) for EPA Test Methods 601/602 as provided by the discharger's laboratory, which is certified by the California Department of Health Services.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. TOXICITY: The survival of rainbow trout in 96-hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

B. RECEIVING WATER LIMITATIONS

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place:
 - a) Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b) Bottom deposits or aquatic growths;
 - c) Alternation of temperature or apparent color beyond present natural background levels;
 - d) Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e) Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a) Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than specified above, the discharger shall not cause further reduction in the concentration of dissolved oxygen.
 - b) pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
 - c) Un-ionized ammonia (as N): 0.025 mg/l Annual Median, 0.4 Maximum at any time.
3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments


thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon starting any discharge.
2. The discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Executive Officer.
3. The discharger shall propose a study which will document background dissolved metal concentrations in the groundwater, dissolved metal concentrations in the treatment system influent and effluent, and the effect that dissolved metal concentrations in the discharge has on drinking water sources, and on the surface receiving waters. This proposal should be submitted to this office within 60 days from the adoption of this permit.
4. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.
5. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in the discharge as indicated through the comprehensive monitoring program include as part of this order.
6. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December, 1986, except items A.10, B.2, B.3, C.8 and C.11.
7. This Order expires May 26, 1995. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
8. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its

issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 16, 1990.



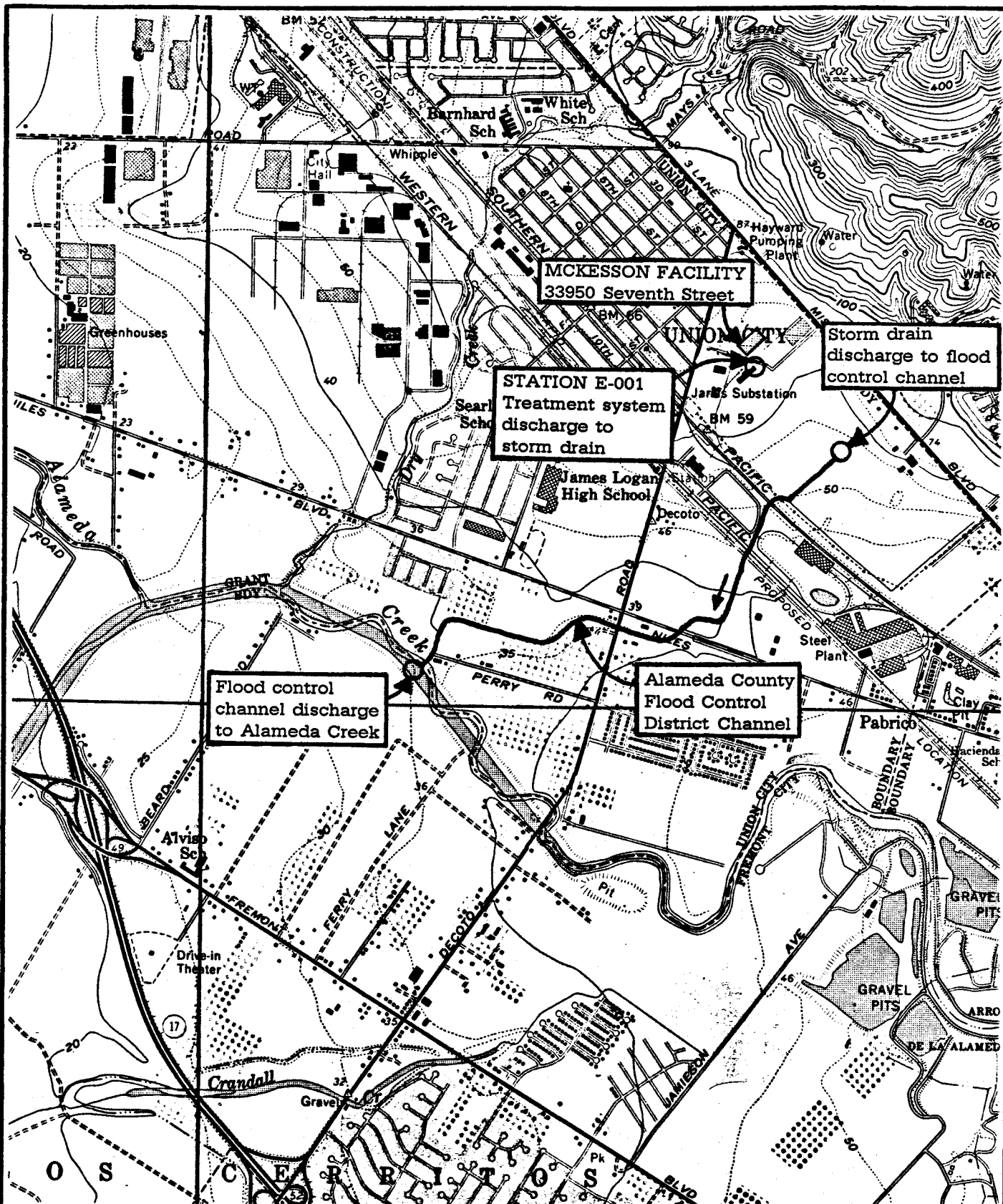
STEVEN R. RITCHIE
Executive Officer

Attachments:

Site Map

Self-Monitoring Program

Standard Provisions & Reporting Requirements, December 1986



0 2000
SCALE IN FEET



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SITE MAP
NPDES PERMIT No. CA0029700
MCKESSON CORPORATION
33950 SEVENTH STREET
UNION CITY, ALAMEDA COUNTY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

McKesson Chemical Company
33950 Seventh Street
Union City, Alameda County

NPDES NO. CA0029700
ORDER NO. 90-057

CONSISTING OF:

PART A, dated December 1986 and modified January 1987,
 including Appendices A through E

PART B, Adopted: May 16, 1990

PART B

McKesson Chemical Company
33950 Seventh Street
Union City, Alameda County

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
I-001	At a point in the ground water extraction system immediately prior to treatment in the air stripper unit.

B. SYSTEM RELIABILITY

<u>Station</u>	<u>Description</u>
SR-001	At a point immediately following treatment in the first carbon adsorption unit.

C. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At a point immediately following treatment in the second carbon adsorption unit.

D. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
R-001	At a point in the receiving waters where the discharge from the E-001 discharge point first encounters existing surface water (each instance shall be located on a map to be included with the scheduled self monitoring report).

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis is provided in the attached Table A.

III. MODIFICATIONS TO PART A, DATED DECEMBER 1986 AND MODIFIED JANUARY 1987

All items of Self-Monitoring Program Part A, dated December 1986 and as modified January 1987 shall be complied with except for the following:

- A. Additions to Part A: Section G.4.d.5: "Results from each required analysis and observation shall be submitted as laboratory originated data summary sheets in the quarterly self-monitoring reports. All chromatographic peaks for purgeable halocarbons and/or volatile organics shall be identified and quantified for all effluent samples. If previously unquantified peaks are identified in any effluent sample, then these peaks shall be confirmed based on analyses using chemical standards necessary to achieve proper identification and quantification. Results shall also be submitted for any additional analyses performed by the dischargers at the specific request of the Board for parameters for which effluent limits have been established and provided to the dischargers by the Board."
- B. Deletions from Part A: Sections D.2.b., D.2.g., D.3.b., E.1.e.1, E.1.f., E.2.b., E.3., E.4., E.5., F.2.b., G.2.(last paragraph only), G.4.b., and G.4.f.
- C. Modifications to Part A: For the following, the discharger shall comply with the Sections as changed and reported herein:
 - 1. Section D.2.a. is changed to read:

"Samples of effluent and receiving waters shall be collected at times coincident with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan."
 - 2. Section D.2.d. is changed to read:

"If two consecutive samples of any one constituent or parameter monitored on a weekly or monthly basis in a 30-day period exceed the effluent limit or are otherwise out of compliance, or if the required sampling frequency is once per month or less (quarterly, annually or other) and the sample or parameter exceeds the limit or is otherwise out of compliance, the discharger shall implement

procedure(s) acceptable to or approved by the Board's Executive Officer, on a case by case basis."

3. Section D.2.e. is changed to read:

"If any instantaneous maximum limit or the total VOC effluent limit is exceeded, within 24 hours of receiving the analytical results indicating the violation, a confirmation sample shall be taken and analyzed with 24 hour turn-around time. If the instantaneous maximum limit is violated in the second sample, the Board's staff shall be notified within 24 hours of receiving the analytical results from confirmation sample. The discharger shall implement procedures acceptable to or approved by the Board's Executive Officer, on a case by case basis. If the total VOC effluent limit is violated in the second sample, the discharge shall terminate immediately, and shall not resume until the cause of the violation is found and corrected to the satisfaction of the Board's Executive Officer."

4. In Section F.1, the phrase "(at the waste treatment plant)" is changed to read, "(at the location of the extraction and treatment system)".

5. Section G.4.e is changed to read:

"Summary tabulations of the data shall include, for each constituent, total number of analyses, maximum, minimum, and average values for each period. Total flow data shall also be included. This information shall be prepared in a format similar to EPA Form 3320-1. This information shall be submitted to the Regional Board:

Executive Officer
California Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, CA 94612"

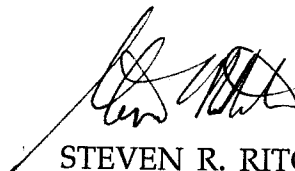
6. The Annual Report required in Section G.5. shall be submitted by January 30 of each year in place of the monthly report due on the same day.

IV. MISCELLANEOUS REPORTING

1. If any chemicals or additives are proposed to be used in the operation and/or maintenance of the ground water extraction/treatment system, the discharger shall notify the Alameda County Water District and the Regional Board, and shall obtain the Regional Board's Executive Officer's concurrence prior to use. The details concerning such approved use shall be reported in the next periodic report submitted to the Board.
2. During start-up of the treatment system and/or after any major tower/column maintenance (i.e. recharging or repacking towers or columns), and/or after any other major maintenance (necessitating treatment system shut down for more than two hours), the effluent shall be sampled, and contained onsite. The sample shall be analyzed with a 24 hour turn-around. If the instantaneous maximum effluent limits have been met, then the operation of the system can continue. If the instantaneous maximum limits have been exceeded then the problem shall be corrected before start-up can continue.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- I. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 90-057.
- II. Was adopted by the Board on May 16, 1990.
- III. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the dischargers, and revisions will be ordered by the Executive Officer or Regional Board.


STEVEN R. RITCHIE
Executive Officer

Attachment: Table A

NPDES NO. CA0029700

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	SR-1	E-1	R-1
TYPE OF SAMPLE	G	G	G	G
Flow Rate (mgd)			W	W
BOD, 5-day, 20°C, or COD (mg/l & kg/day)			Y	
Chlorine Residual & Dosage (mg/l & kg/day)				
Settleable Matter (ml/1-hr. & cu. ft./day)			Q	
Total Suspended Matter (mg/l & kg/day)				
Oil and Grease (mg/l & kg/day)				
Coliform (Total or Fecal) (MPN/100 ml) per req't				
Fish Tox'y 96-hr. TL & Surv'l in undiluted waste			Y	
Ammonia Nitrogen (mg/l & kg/day)			V	
Nitrate Nitrogen (mg/l & kg/day)				
Nitrite Nitrogen (mg/l & kg/day)				
Total Organic Nitrogen (mg/l & kg/day)				
Total Phosphate (mg/l & kg/day)				
Turbidity (Jackson Turbidity Units)				
pH (units)			Q	
Dissolved Oxygen (mg/l and % Saturation)			Q	
Temperature (°C)			Q	
Apparent Color (color units)				
Secchi Disc (inches)				
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)				
Arsenic (mg/l & kg/day)	Q		M	
Cadmium (mg/l & kg/day)	Q		M	
Chromium, Total (mg/l & kg/day)	Q		M	
Copper (mg/l & kg/day)	Q		M	
Cyanide (mg/l & kg/day)	Q		M	
Silver (mg/l & kg/day)	Q		M	
Lead (mg/l & kg/day)	Q		M	

TABLE A (continued)											
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS											
Sampling Station	I-1		SR-1		E-1		R-1				
TYPE OF SAMPLE	G		G		G		G				
Mercury (mg/l & kg/day)	Q				M						
Nickel (mg/l & kg/day)	Q				M						
Zinc (mg/l & kg/day)	Q				M						
Phenolic Compounds (mg/l & kg/day)											
All Applicable Standard Observations											
Bottom Sediment Analyses and Observations											
EPA Method 601 with Freon 113	WMQ		W		W/M						
EPA Method 602	Q				M						
Acetone	Q				Q						
Isopropyl Alcohol	Q				Q						
Methyl Ethyl Ketone	Q				Q						
TPH as gasoline and diesel	Q				Q						

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling
 DI = depth-intergrated sample
 BS = bottom sediment sample
 O = observation

TYPES OF STATIONS

I = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 P = treatment facilities perimeter stations
 L = basin and/or pond levee stations
 B = bottom sediment stations
 G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurrence
 H = once each hour
 D = once each day
 W = once each week
 M = once each month
 Y = once each year
 V = varies; total ammonia
 nitrogen shall be ana-
 lyzed and unionized am-
 monia calculated whenever
 fish bioassay test re-
 sults fail to meet the
 specified percent survival

2/H = twice per hour
 2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/y = once in March and
 once in September
 Q = quarterly, once in
 March, June, Sept.
 and December

2H = every 2 hours
 2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous

W/M = weekly for the first two months
 after startup of operations and
 reduced to monthly thereafter

WMQ = weekly for the first two months
 after startup of operations,
 reduced to monthly for the next
 six months, then reduced to
 quarterly thereafter